Key Scientific Issues for Research on Violence Occurring Around the Time of Pregnancy

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Introduction

Violence against women is increasingly recognized to be an important clinical and public health issue. In the United States an estimated 1.8 million women (3% of women overall) are severely assaulted by their male partners each year. Estimates of the prevalence of violence during pregnancy developed from clinic-based studies range from 0.9% to 20.1%, but the bulk of studies have found a prevalence of 3.9% to 8.3%.[1] Applying these percentages to the 3.9 million U.S. women who delivered live-born infants in 1995 yields the conclusion that 152,000 to 324,000 women experienced violence during their pregnancies.[2] Thus, violence may be more common for pregnant women than preeclampsia, gestational diabetes, or placenta previa.[1,3]

In recognition of the increasing awareness of violence during pregnancy and the emerging research in this area, the Centers for Disease Control and Prevention (CDC) has produced three systematic reviews of the literature on this topic, focusing specifically on prevalence, measurement, and outcomes.[1,4,5] These reviews show the difficulty of drawing conclusions from the published studies and then generalizing the results, because studies differ in populations sampled, methods, and approaches to measuring violence. Having standardized methods of estimating the prevalence of violence against pregnant women; of studying the association between the experience of violence and pregnancy; and of evaluating risk factors, protective factors, and outcomes of violence occurring around the time of pregnancy are all important for developing, implementing, and evaluating prevention and intervention strategies.

The need for greater standardization of research in order to facilitate comparability among studies prompted the CDC to bring together in May 1997 a number of investigators who had published research on pregnancy-related violence, as well as others with public health expertise in violence prevention. This report summarizes the collective recommendations resulting from that meeting, which was held in Atlanta. Sponsors included the Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion (DRH/NCCDPHP); the Division of Violence Prevention, National Center for Injury Prevention and Control (DVP/NCIPC); and the Office of Women's Health (OWH). The Office of Population Affairs of the Public Health Service also participated.

This report has been specifically designed to guide research investigating violence occurring around the time of *pregnancy.* Pregnancy is a unique time for intervention and prevention efforts because many women may have increased or initial contact with health care providers. Other issues related to pregnancy, such as changes in a woman's self esteem, changes in relationships with her partner, concerns for the future, and feeling responsible for her developing child may offer increased possibilities for intervening in a cycle of violence.

To date, specific investigation of violence around the time of pregnancy has been so

limited that we do not even know whether violence during pregnancy is precipitated by issues related to pregnancy, whether violence increases during pregnancy, or whether, in general, the experience of violence increases the risk of poor pregnancy outcome.[6] Research will need to continue to identify issues that are causal for violence occurring around the time of pregnancy, including such factors as substance abuse, intendedness of pregnancy, and jealousy.[7-10] Additionally, many risk and protective factors still need to be investigated regarding violence occurring around the time of pregnancy to improve the targeting of interventions and prevention strategies. (The term "risk factor" is used in this report to indicate items associated with violence around the time of pregnancy; they may be causative or not.) Modifying these risk factors through interventions might limit the occurrence of violence occurring around the time of pregnancy.[11] The term "protective factor" is used to indicate items that are associated with a decreased risk for violence around the time of pregnancy.

Although future research on violence related to any issue or occurring at any point in a woman's life is important, this report specifically focuses on violence occurring around the time of pregnancy. Violence related to a variety of other issues also merits intensified research efforts.

Violence occurring around the time of pregnancy can occur between victims and perpetrators who are known to each other or who are strangers. This report focuses on perpetrator-victim relationships between people who know each other, including past or current intimate partners, family members, and acquaintances/friends, because a majority of perpetrators are known to their victims[12] and because intervention strategies vary according to the relationship of perpetrator to victim.

Future research on violence occurring around the time of pregnancy will be enhanced by drawing on already developed theories. An array of theories, from a variety of disciplines may be applicable.[13-19] For example, social learning theories may be important in understanding the perpetrator's behavior or use of violence.[15] Similarly, the theories of health protective behavior, or adaptations of these theories, may help researchers understand a woman's efforts (or lack of efforts) to protect herself, her fetus, or her child from violence during or after pregnancy.[16-19] In addition to theories that can be applied at the level of the individual (microlevel), there are theories that may be useful in addressing the influence of macrolevel or contextual factors.[13,20-21] Available theories can also be used to select variables researchers will need to investigate their hypotheses. Future research should use theories that address both microlevel and macrolevel data for both the victims and the perpetrators.

This report supports the conduct of research that is, among other things, ethical, legal, and safe. Research must avoid jeopardizing or compromising the interests of women exposed to or at risk of violence. Research hypotheses, data collection efforts, and the content of questionnaires must avoid blaming the victim or violating a woman's privacy. Researchers will have to assess the impact of data collection on the safety of the individuals involved in the study. Research protocols will need to allow for the termination of data collection as

well as access to interventions when those involved in the study are endangered by their participation or otherwise need protective action. In addition, child abuse and neglect or statutory rape may be discovered in the research process; study protocols will have to incorporate contact with child welfare and/or law enforcement agencies.[22] Complete discussion of the evolving legal, ethical, and safety concerns raised by future research is beyond the scope of this report. Several researchers and organizations have developed guidelines that begin addressing these issues, but they are not specifically related to violence occurring around the time of pregnancy.[22-26]

Objectives

The overall goal of the May 1997 meeting was to obtain the input of researchers and victim-advocates on key scientific issues related to future research involving violence around the time of pregnancy. The specific objectives that are summarized in this report include the following:

1. Define violence occurring around the time of pregnancy; define violence during pregnancy.

2. Agree on terminology related to the study of violence occurring around the time of pregnancy.

3. Establish guidelines for use in future research regarding periods of observation and milestones to be used in the collection of data in the study of violence occurring around the time of pregnancy.

4. Establish a list of clear and consistent research questions to guide future research.

5. Establish a set of categories to guide the selection of variables for investigating violence occurring around the time of pregnancy.

Discussion of these five objectives has been an important first step toward greater standardization of future research. However, there are additional issues of great importance in the study of violence occurring around the time of pregnancy. Ideas and actions suggested at the meeting for future discussion and research included the following:

1. Develop and refine measurement instruments and specific measures;[27-29]

2. Develop recommendations and specific strategies for the use of quantitative and qualitative research designs;[30-32]

3. Develop strategies for research designs that examine pregnancy as a risk factor for violence by comparing pregnant and nonpregnant women;

4. Determine ways to address violence experienced by women as a chronic and continuous process (a process some researchers refer to as battering). Future work in this area would stress the nonphysical effects the victim can experience such as feelings of entrapment or loss of control[33-36]; and

5. Further delineate the ethical, legal and safety issues related to the study of violence occurring around the time of pregnancy.

The key issues identified in this report will be important in planning, designing and implementing research investigating violence occurring around the time of pregnancy, but this constitutes only an initial approach to standardizing research in this area. The examples are meant to provide ideas upon which researchers can build.

Objective 1

Define violence occurring around the time of pregnancy; define violence during pregnancy.

A lack of clearly defined time periods of exposure in individual studies addressing violence around the time of pregnancy has led to an inability of these studies to accurately measure the association between violence and pregnancy. Furthermore, inconsistency among studies in defining time periods of exposure has led to an inability to compare study findings. To address these issues, the following definitions of "violence occurring around the time of pregnancy" and "violence during pregnancy" are suggested:

Term	Definition
Violence occurring around the time of pregnancy	Physical, sexual, or psychological/emotional violence, or threats of physical or sexual violence that are inflicted *on a woman during the prepregnancy, pregnancy, or postpregnancy periods or some combination of these periods* (see Objective 3 for definitions of time periods).
Violence during pregnancy	Physical, sexual, or psychological/emotional violence, or threats of physical or sexual violence that are inflicted *on a pregnant woman*. Violence during pregnancy is a subset of violence occurring around the time of pregnancy.

Objective 2

Agree on terminology related to the study of violence occurring around the time of pregnancy.

Consistent terminology is not used in the study of violence occurring around the time of pregnancy. To address this issue, several terms[a] are proposed on the following pages for future use: terms were chosen for their applicability to violence around the time of pregnancy, their inconsistent use to date in the literature, and the importance they will play later in this report in the discussion of research topics and variables. These terms are presented as a reference so that, in future discussions and research, they may be used as consistently as possible by different researchers. Some terms are described in only a general sense so that researchers can further define them to make them applicable to their investigation.

Types of Violence and Abuse

Subcategory	Description
Physical violence[a]	Intentional use of physical force with potential for causing death, injury, or harm. Physical violence includes, but is not limited to scratching, pushing, shoving, throwing, grabbing, biting, choking, shaking, poking, hair pulling, slapping, punching, hitting, burning, and use of restraints or one's body, size, or strength against another person. Physical violence includes the use of a weapon against a person.
Sexual violence[a]	Use of physical force to compel a person to engage in a sexual act (see definition on page 9) against her will, whether or not the act is completed. An attempted or completed sexual act (see definition on page 9) involving a person who is unable to understand the nature or condition of the act, decline participation, or to communicate unwillingness to engage in the sexual act, e.g. due to illness, disability, the influence of alcohol or other drugs, or intimidation or pressure. Abusive sexual contact (see definition on page 9).

[a] These terms evolved from a meeting convened by DVP/NCIPC in 1996 at CDC. At this meeting, a panel of experts established guidelines for intimate partner violence surveillance. Terms that emerged from this conference are being pilot tested in three states. For more information on this meeting and these terms contact: Family and Intimate Violence Prevention Team, K-60, Centers for Disease Control and Prevention, 4770 Buford Hwy, Atlanta, GA 30341-3724; telephone: (770) 488-4410; fax: (770) 488-4349.

Threat of physical or sexual violence[a]	An expression of intent to cause death, injury, or physical harm through the use of words, gestures, or the use of a weapon; or to compel a person to engage in sexual acts or abusive sexual contact when the person is either unwilling or unable to give consent.
Psychological/ emotional abuse[a]	Trauma to the victim caused by acts, or threats of acts, such as humiliating the victim, controlling what the victim can and cannot do, withholding information from the victim, or getting annoyed if the victim disagrees. This may include coercive tactics.
Psychological/ emotional abuse as a type of violence[a]	For psychological or emotional abuse (see definition above) to be considered a type of violence, there must also have been prior physical or sexual violence (or a threat of such violence).

Terms Regarding Relationships

Term	Description
Victim[a]	Person who is target of violence or abuse.
Perpetrator[a]	Person who inflicts violence or abuse, or causes these to be inflicted, on the victim.
Intimate partner[a]	Includes current and former spouses (legal and common law), non-marital partners (boyfriend, girlfriend, same-sex partner, dating partner). Intimate partners may or may not be cohabitating; the relationship need not involve sexual activities.
Violent intimate partner[a]	Intimate partner (see definition above) who has perpetrated violence on his or her partner.
Acquaintance/ friend	Known individual who is not an intimate partner.
Family member	Parent (including step-parents), children, siblings, and other relatives, including in-laws.
Stranger	Person not known.
Biological father of baby	Person by whom a woman is pregnant.

Miscellaneous Terms

Term	Description
Sexual act[a]	Contact between the penis and the vulva, or the penis and the anus, involving penetration however slight; contact between the mouth and penis, vulva, or anus; or penetration of the anal or genital opening of another person by a hand, finger, or other object.
Abusive sexual contact[a]	Intentional touching directly or through the clothing of the genitalia, anus, groin, breast, inner thigh, or buttocks of any person against her will, or of any person who is unable to understand the nature or condition of the act, decline participation, or to communicate unwillingness to be touched.
Violent episode[a]	An act or series of acts of violence. May involve multiple types of violence (e.g. physical, sexual, threat of physical or sexual violence, psychological/emotional) or may involve repetition of violence over a period of minutes, hours, or days.
Most recent violent episode[a]	For victims who have or have had more than one violent intimate partner, the most recent violent episode may have been perpetrated by someone other than the victim's current partner. For example, if a woman has been victimized by her husband and her former husband, questions about the most recent violent episode would refer to the episode involving whichever partner victimized her most recently.
Frequency	Number of episodes of any given kind in unit of time.
Severity	Level of intensity, such as degree of injury or level of victim's fear.
Chronicity	The state of continuing a long time or recurring frequently.
Infant	Child(ren) under age 1 year delivered from victim.
Fetus	Product of conception from 8 weeks after fertilization to delivery or termination.[37]
Adverse pregnancy outcomes	Physical, mental, fetal, or maternal outcomes subsequent to violence.

Objective 3

Establish guidelines for use in future research regarding periods of observation and milestones to be used in the collection of data in the study of violence occurring around the time of pregnancy.

Time periods of observation, periods of violence ascertained by studies, and the timing of data collection vary among researchers investigating violence around the time of pregnancy.[1,4] Inconsistencies have led to the inability to draw conclusions about the findings across studies, to determine whether violence is related to pregnancy, and to reach conclusions about change in levels of violence at different periods of observation.[1,4] Guidelines for periods of observation and milestones to be used in data collection will help limit inconsistencies in future research.

Periods of observation

The suggested time periods of observation for the study of violence occurring around the time of pregnancy, illustrated in Table 3-1, include the periods of pregnancy, prepregnancy, and postpregnancy. Consistent with the concept of the preconception period, the prepregnancy period includes 1 year prior to pregnancy. The pregnancy period is considered to be from the time of the last menstrual period until delivery or termination. The postpregnancy period is separated into two categories: (1) up to 6 weeks after delivery or termination and (2) 6 weeks to 1 year after delivery or termination. The rationale for having two categories was to distinguish the issues and events that may occur in the immediate postpregnancy period, which is characterized by rapid physical and mental changes, from those that occur later in the postpregnancy period. The 6-week demarcation is also useful because many women schedule a health care visit at this time.

The suggested periods of observation can be further subdivided based on the research resources available. For example, the period of pregnancy could be divided by trimester or at the 20-week point. The immediate postpregnancy period could be subdivided into a postpregnancy period of 1 week and a postpregnancy period of more than 1 and up to 6 weeks.

Future research should capture and distinctly record events occurring during the periods of pregnancy, prepregnancy, and postpregnancy. For example, if researchers ask women during postpregnancy about prepregnancy and pregnancy, they should ask separately about each specific period. Researchers should report findings from the particular time periods for which women are screened and not generalize about portions of time periods that were not assessed. The specific periods of observation from which data will need to

be collected will depend on the research question being asked. These periods may overlap between consecutive pregnancies if a woman becomes pregnant again soon after a delivery or termination.

Table 3-1: Periods of observation regarding violence exposure in the study of violence occurring around the time of pregnancy

<table>
<tr><th>Past</th><th>Prepregnancy</th><th>Pregnancy</th><th>Postpregnancy</th><th>Long-term</th></tr>
<tr><td>Childhood</td><td rowspan="3">1 year prior to pregnancy</td><td rowspan="3">Time of last menstrual period until delivery or termination</td><td rowspan="2">Up to 6 weeks after delivery or termination</td><td rowspan="3">More than 1 year after delivery or termination</td></tr>
<tr><td>Adolescence</td></tr>
<tr><td>Adulthood</td><td>6 weeks to 1 year after delivery or termination</td></tr>
</table>

Milestones

Researchers may want to ask a woman to recall important events, or milestones, in her life to improve her recall and reported timing of events. Each period of observation will have its own specific milestones that may be useful as anchors when data are collected. Researchers should use this list because it may help women recall and place the timing of a violent episode, whether or not it precipitated episodes of violence or is related to violence. Examples of milestones are listed in Table 3-2.

Concerns related to data collection will differ by whether data are collected by personal interviews, self-administered questionnaires, or through focus groups. Guidelines will depend on the training and characteristics of the persons administering these various data collection methods. A more general discussion of methods used to collect data is beyond the scope of this report.

Table 3-2: Examples of Milestones by Periods of Observation

Prepregnancy	< Discussion with partner and/or perpetrator regarding pregnancy
	< Intentional cessation of contraception use
Pregnancy	< First missed menstrual period
	< Suspicion of pregnancy
	< Confirmation of pregnancy
	< Disclosure of pregnancy to partner or perpetrator
	< First prenatal visit
	< Hearing heart tones
	< Quickening
	< First ultrasound (including confirmation of congenital anomalies)
	< Confirmation of gender of fetus
	< Change in health risk behavior (e.g., cessation of smoking or drinking)
	< Point at which pregnancy changes from normal to high risk (including compliance with necessary regimens such as bed rest)
Postpregnancy	< Postpartum visit to health care provider
	< First menstrual period
	< Resumption of sexual intercourse
	< Re-initiation of contraception
	< Return to work

Objective 4

Establish a list of clear and consistent research questions to guide future research.

Examples of research questions are offered here to begin to establish a set of clear and consistent questions to be used in the investigation of violence occurring around the time of pregnancy. Having this set of questions should improve the comparison of study results.

Prevalence

Example questions:

- How many women (and what proportion of women) have experienced violence in the different periods of observation around the time of pregnancy?
- What proportion of men have perpetrated violence on women in the different periods of observation around the time of pregnancy?

Characteristics of Violence

Example questions:

- What is the severity of violence during individual observation periods (prepregnancy, pregnancy, postpregnancy)?
- How does the severity of violence change during individual observation periods (prepregnancy, pregnancy, postpregnancy)?
- Does the type of violence differ by observation period (prepregnancy, pregnancy, postpregnancy)?
- Does the type of violence change across individual observation periods (prepregnancy, pregnancy, postpregnancy)?
- How does the type and severity of violence around the time of pregnancy differ by selected characteristics of women (e.g., age, socioeconomic status, urban/rural residence)?

Causality

Example questions:

- Is violence a consequence of pregnancy?
- Is pregnancy a consequence of violence?
- Are there specific issues related to pregnancy, such as unintendedness or jealousy

regarding the pregnancy, that are causes of violence?

Risk or Protective Factors for Victimization

Example questions:

- What are the contexts in which violence occurs around the time of pregnancy?
- What are the risk factors for violence around the time of pregnancy?
- How do the risk factors for violence around the time of pregnancy differ by selected characteristics of women (e.g., age, socioeconomic status, urban/rural residence)?
- What are the most common and important individual and contextual protective factors that mitigate the severity or frequency of violence around the time of pregnancy for women at risk?
- What factors (individual and contextual) prompt women experiencing violence around the time of pregnancy to seek help?

Risk or Protective Factors for Perpetration

Example questions:

- What characteristics of perpetrators are associated with their being violent to women around the time of pregnancy?
- What are the most common and important protective factors (individual and contextual) that prevent or modify the violent actions of the perpetrator?

Outcome

Example questions:

- What are the adverse outcomes (e.g., maternal, fetal, physiological, psychological, social, economic) of violence during pregnancy?
- What are the differences in adverse pregnancy outcomes between women who experience violence and women who do not experience violence?
- How many women (and what proportion of women) experience adverse outcomes of violence during pregnancy?
- For a particular adverse pregnancy outcome (e.g., low birthweight), what proportion of the outcome is associated with violence during pregnancy?

Screening

Example question:

- What are effective screening mechanisms and optimal times for identifying violence occurring to women in the prepregnancy, pregnancy, and postpregnancy periods?

Prevention and Intervention

Example questions:

- What protective factors (individual and contextual) prevent women from experiencing violence around the time of pregnancy?
- What are effective violence prevention programs for women who are in the prepregnancy, pregnancy, and postpregnancy periods?
- What are effective intervention programs for women who are being victimized, or who are at risk of victimization, in the prepregnancy, pregnancy, and postpregnancy periods?
- What characteristics of the perpetrator would be amenable to interventions for preventing violence to women around the time of pregnancy?
- What are effective training programs to encourage health care providers to ask and identify women who are at risk for violence during the prepregnancy, pregnancy, and postpregnancy periods?

Objective 5

Establish a set of categories to guide the selection of variables for investigating violence occurring around the time of pregnancy.

This objective provides variables, listed by categories, that may be used in future investigation of violence occurring around the time of pregnancy. The use of these variables will depend on which research question is being investigated. Researchers involved in this area will need to make decisions regarding how to measure the selected variables and what measurement tools or scales to use (operationalization).

Topic Areas

Categories of Variables	Subcategories of Variables
Description of index episode of violence	
Time period of occurrence of violence	Past, prepregnancy, pregnancy, postpregnancy (see Table 3-1).
Type of violence	Physical, sexual, threat of physical or sexual violence, psychological/emotional*
Characteristics of violence, most recent or past episodes	Frequency and severity of violence*
Demographics	
Demographic characteristics of victim	Age, race and ethnic group, marital status and co-habitation status, socioeconomic status, occupation/employment, education, location of birth (U.S. versus foreign-born)
Demographic characteristics of perpetrator(s)	Age, race and ethnic group, marital status and co-habitation status, socioeconomic status, sex, occupation/employment, education, location of birth (U.S. versus foreign-born)

Characteristics of relationship between victim and perpetrator(s)	
Type	Intimate partner, family member, acquaintance/friend*
Characteristics of relationship	Relationship satisfaction, conflict-resolution style, control of decision-making (such as with contraception), power in relationship
Relationship history	Time that perpetrator and victim have known each other, time that victim and perpetrator have been intimate partners, time since first episode of violence with perpetrator, periods of cohabitation and separation, whether relationship continued subsequent to violence, whether perpetrator is also the father of the baby (or believes he is or is not)
Characteristics of victim and perpetrator	
Characteristics of victim	Awareness of pregnancy at time of violence, response to pregnancy, health status, reproductive history, mental health status (stress, depression, suicidal gestures/attempts, anxiety, post-traumatic stress disorder), substance abuse, perceived access to services, religion, disability status
Characteristics of perpetrator	Awareness of pregnancy at time of violence, response to pregnancy, number of perpetrators, mental health status (stress, depression, suicidal gestures/attempts, anxiety, post-traumatic stress disorder), substance abuse, religion, disability status
Characteristics of index pregnancy to consider as risk factors and confounders	
Intendedness of pregnancy	See current literature for suggestions.[38]
Health care utilization, other than routine prenatal care, during pregnancy	Site of utilization, reason for utilization
Adequacy of prenatal care	See current literature for suggestions.[39-41]
Risk factors for poor pregnancy outcomes	Smoking, alcohol use, illicit drug use, presence of sexually transmitted disease, preexisting conditions of pregnancy, clinical conditions
Health behavior changes recommended by health care provider	Bed rest, abstinence from intercourse, smoking and alcohol cessation, cessation of working

Outcome of index episode of violence	
Physical injury to victim or fetus	Type, severity, location on body or site of injury
Physical health outcomes to victim or fetus	Type, severity
Pregnancy as an outcome of violence	Occurrence of pregnancy
Adverse pregnancy outcomes*	Type, severity
Psychological outcome	Type, severity
Health care received	Site of utilization, amount of utilization, reason for visit
Utilization of other community services	Site of utilization, amount of utilization, reason for visit
Living environment	
Characteristics of living environment	Family size, including other children, physical living arrangements
Family norms	Norms regarding attitudes toward pregnancy, attitudes and history toward violence and violence against women, decision-making
Affiliation between the family and others	Degree and source of social support (including extended family and other networks), amount of isolation, connection with community
Community contexts	
Community norms	Norms regarding pregnancy, pregnancy disclosure, violence, violence against women (including attitude of law enforcement agencies), masculinity, immigrants, culture and ethnicity
Economic characteristics of community	Employment opportunities, distribution of resources and services, home ownership
Characteristics of the community	Geography, density, degree of social unrest, presence of volunteer organizations, availability of transportation, characteristics of health care system
Social oppression	Degree of racism, sexism, economic discrimination

Public policy context	
Justice system	Local laws, legal protection, biases of system
Availability of services	Access to shelters, mental health counseling, drug and alcohol treatment, subsidized housing, advocacy, services to protect women and other assistance
Public policy changes	Welfare reform, funding, lack of support if mother is substance abuser

* Described in Objective 2.

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